

# t16\_graph\_1

(TMK2pe5JkNDF8cvXGzeG2YDimD6TrK7EezZ)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_graph\_1 : \iota \Rightarrow o$  be given. Let  $l1\_graph\_1 : \iota \Rightarrow o$  be given. Let  $r4\_graph\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m3\_graph\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $u4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_graph\_1 : \iota \Rightarrow \iota$  be given. Let  $u2\_graph\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge (l1\_graph\_1 X0)) \wedge ((\neg v2\_struct\_0 X1) \wedge (l1\_graph\_1 X1))) \Rightarrow (r4\_graph\_1 X0 X0) \quad (1)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_graph\_1 X0)) \Rightarrow (\forall X1. ((v1\_graph\_1 X1) \wedge (m3\_graph\_1 X1 X0)) \Rightarrow (\forall X2. ((v1\_graph\_1 X2) \wedge (m3\_graph\_1 X2 X0)) \Rightarrow (((u1\_struct\_0 X1 = u1\_struct\_0 X2) \wedge (u4\_struct\_0 X1 = u4\_struct\_0 X2)) \Rightarrow (X1 = X2)))) \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_graph\_1 X0)) \Rightarrow (\forall X1. ((\neg v2\_struct\_0 X1) \wedge (l1\_graph\_1 X1)) \Rightarrow ((r4\_graph\_1 X0 X1) \Leftrightarrow (m3\_graph\_1 X0 X1))) \quad (3)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_graph\_1 X0)) \Rightarrow (\forall X1. ((\neg v2\_struct\_0 X1) \wedge (l1\_graph\_1 X1)) \Rightarrow (((m3\_graph\_1 X1 X0) \Leftrightarrow ((r1\_tarski (u1\_struct\_0 X1) (u1\_struct\_0 X0)) \wedge ((r1\_tarski (u4\_struct\_0 X1) (u4\_struct\_0 X0)) \wedge (\forall X2. (X2 \in u4\_struct\_0 X1) \Rightarrow ((k1\_funct\_1 (u1\_graph\_1 X1) X2 = k1\_funct\_1 (u1\_graph\_1 X0) X2) \wedge ((k1\_funct\_1 (u2\_graph\_1 X1) X2 = k1\_funct\_1 (u2\_graph\_1 X0) X2) \wedge ((k1\_funct\_1 (u1\_graph\_1 X0) X2 \in u1\_struct\_0 X1) \wedge (k1\_funct\_1 (u2\_graph\_1 X0) X2 \in u1\_struct\_0 X1)))))))))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1) \Leftrightarrow ((r1\_tarSKI X0 X1) \wedge (r1\_tarSKI X1 X0)) \quad (5)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v1\_graph\_1 X0) \wedge (l1\_graph\_1 \\ X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v1\_graph\_1 X1) \wedge (l1\_graph\_1 \\ X1)))) \Rightarrow (((r4\_graph\_1 X0 X1) \wedge (r4\_graph\_1 X1 X0)) \Rightarrow (X0 = X1)) \end{aligned}$$